FINAL REPORT PROJECT STATUS

(Student Technology Assessment Through Unique Strategies)

The Steppingstones of Technology Innovation for Students with Disabilities

CDFA 84.327A

This is the final report for Project STATUS that was funded October 1998 to October 2001. The funding was extended by one year at no cost to complete project objectives and activities. Included within this document is a listing of the goal and objectives and an indication of the major findings of the project. All goals and objectives were accomplished and the project was funded for Phase II expansion and replication of STATUS activities.

Project Goal: The goal of this project is to utilize distance technology-based capabilities in an innovative way of assessing the assistive technology needs of students. Project Status will capitalize on the technology system developed in conjunction with the Kentucky Educational Reform Act to reach students across the Commonwealth via videoconferencing connections for a distance-based diagnosis and identification of possible assistive technologies which will fit each student's need.

To accomplish the above goal, a comprehensive evaluation procedure was used to facilitate the information gathering. A summative evaluation was used to provide particulars about whom, what and how well the project was accomplished. A process evaluation was also implemented to track accomplishments of each project activity.

PROJECT OBJECTIVES

To accomplish the goal of the project, the following primary objectives were addressed:

Objective 1: Create **rural access** to multidisciplinary assistive technology evaluation and technical assistance through the use of interactive technologies,

Objective 2: **Adapt videoconference and/or Internet technologies** to perform distance-based assistive technology assessment and technical assistance for educational purposes,

Objective 3: **Develop instructional methods** for teaching local school personnel how to facilitate completion of interactive distance-based assistive technology evaluations that leads usage for educational purposes, and

Objective 4: Demonstrate how **interactive distance-based assistive technology evaluation and technical assistance** ultimately impacts student participation in statewide assessment and accountability and improvement in overall educational performance consistent with their IEP.

In achieving the above goal and objectives, Project STATUS created a process that would be inherent to any attempt to complete an individual assistive technology assessment. Project STATUS had to develop a student referral and selection process, provide for appropriate equipment and resources to perform an assessment, perform the assessment, provide an effective means for disseminating the results of the assessment, and providing some form of follow-up to assist the teacher/local team in implementing the recommendations of the assessment. All of this was accomplished and evaluated, including the implementation utilizing distance video conference technologies.

Accomplishing Objectives 1 to 4, Project STATUS developed procedures and protocols for referral and profile development to facilitate the selection of the rural students to be assessed through the project. Additionally, evaluation protocols were developed to facilitate the process of assessing each aspect of rural distance based evaluation process. Solicitations were sent out to Special Education Directors/Coordinators in targeted rural districts of Kentucky. Follow up was

initiated that included personal and formal contacts to gain access to potential students. Referral documents and other material related to this process are in Appendix A.

Evaluation activities consisted of using rubrics, questionnaires and various statistical analyses to understand the various nuances of the project activities. The following represents the culmination of our analysis of the above goals and objectives. The summative aspect to this project evaluation refers to the actual summarization of who, what and how many students were evaluated. The following is that information.

SUMMATIVE EVALUATION

Approximately 50 students were referred to the project over the two years and one extended year of this project. This number represents individuals that the local school districts and project staff felt might be appropriate to be evaluated via tele-communications. The 50 referrals were screened and narrowed to 30 participants. All 30 were included in the evaluation process; however, only 28 were ultimately evaluated through the end of the project's three years of operation. Medical complications developed that prevented two students from being assessed through Project STATUS. Each participant chosen for the tele-assessment activities were selected to represent a wide variety of characteristics so that a broad array of students' needs could help in determining utility of the video conference approach to live AT assessment. Further, each of the participants was broadly matched on similar characteristics and randomly assigned to use a compressed video assessment, videophone, or a tele-assessment via the web protocol. This process was implemented to determine effectiveness of the various videoconference technologies for performing distance-based AT assessment.

The demographic variables that represent the participants in the STATUS project are reported below. Of the 28 rural evaluations performed, nine were at the elementary level, nine

were at the middle school level and 10 were at the high-school level. The diagnostic categories of the student participants included six having a physical disability, four participants with a speech impairment, two students had a learning disability, three had a visual impairment, 11 were identified as having a functional mental disability (FMD), two had been identified as ADHD, five had a diagnosis of autism, five had been identified as developmentally delayed, three had a diagnosis of Cerebral Palsy, and, finally, three individuals had a diagnosis of physical disability, hearing impairment, Down's Syndrome, respectively. The AT assessment needs of the 28 rural students were further defined: 16 having academic needs, 13 having environmental needs, and 20 with communication issues. It should be noted that some students had overlapping needs.

The video conferencing tools used to assess the students were accomplished in three primary modes: video phone using plain old telephone (POTS) systems, Kentucky TeleLinking Network (KTLN) (a compressed video system) using three ISDN lines, and/or the Internet/Web utilizing various software and camera technologies. Of the 28 rural students evaluated. 18 were evaluated using videophones, nine were assessed using KTLN and one was evaluated using the Internet. One of the videophone evaluations also used the Internet to supplement the videophone assessment session.

Questionnaires were used to evaluate the satisfactoriness of the evaluation system (See Appendix XX for an example of the questionnaire). This was accomplished by having both the rural school team evaluate the process along with the Project STATUS staff members responding to an equivalent questionnaire. In general, all participants approved or liked the distance-based process. As described above, the Internet/Web was rated least beneficial. Web based problems such as the of lack of audio/video quality and undependability of the Internet connections

resulted in this technology only being used once. In describing the two primary modes of distance-based evaluation (videophone/POTS and KTLN) both were evaluated positively. A total of 64 school level team members participated in the videoconference assessments and evaluated the process of distance-based AT assessments. Members of the school team ranged from the student's regular or special education teacher, technology specialist, parent, physical therapists, speech therapists, occupational therapists and instructional assistants. The School team members filling out the questionnaire ranged from two team members to as many as five team members per student participant. The student teams reported an average score for all methods of distance-based assessment of 3.9 on a five-point scale. The comparison between the two primary methods of assessments, either videophone or KTLN, indicated that videophone had an average approval score of 4.1 with KTLN receiving an average score of 3.9 on a five-point scale. On a question regarding the effectiveness of the videoconference approach, the local school team members evaluated both methods, KTLN and videophone, to be 3.7 and 4.0 respectively on a five-point scale. No systematic difference was found between any of the various group types (teacher, parent, etc.) in their responses on the questionnaires.

The responses by the Project STATUS AT assessment team to similar questions regarding the efficacy resulted in a much different outcome. There were 45 individual team member evaluations filled out. Evaluation team members per student ranged from two to five team members. Overall, the team evaluated the efficacy of both video conference methods for use in the assessment process much lower, 2.5 on a five-point scale. KTLN method of distance assessment was evaluated by the Project STATUS team members as 2.9 with the videophone method score of 3.1 on a five-point scale. On a question regarding the effectiveness of the videoconference approach to AT assessment, the Project STATUS team members evaluated both

methods, KTLN and videophones, to be 2.6 and 2.9, respectively, on a five-point scale. No systematic difference was found between any of the various Project STATUS team group types (OT, SLP, AT Specialist, etc.) in their responses on the questionnaires.

The process analysis relates to posing a series of questions and sub-questions. These questions relate directly to accomplishments, outcomes, and products of project activities. The following is the summarization of those questions.

Objective 1. Create a rural access system of multi-disciplinary assistive technology evaluations through the use of interactive technologies

A rural access system was developed through this project with local schools districts throughout the Commonwealth. Criteria for schools sites included:

1) Rural school district,

2) Students meeting the need for AT assessment,

3) Assurances from each school to:

a) support Assistive Technology Assessment completion including the identification of students for consideration of AT assessment who meet Project specifications.

b) complete Project Status referral forms for AT assessment, including the identification and arrangement of staff release time for participation in an video –conference based assessment. School personnel for participation would be teachers and related service personnel working with the identified student (i.e., speech/language pathologist, classroom teacher, technology trouble shooter, and as available OT/PT).

assuranced that a notice to parent(s) of students selected was sent and written permission obtained for student participation and confidentiality release to allow Project STATUS staff to receive student IEP information for pre-post analysis.

c) the school agreed to work with Project STATUS staff in scheduling AT assessment at mutually agreed upon time,

d) arrange for parent participation in online AT assessment,

e) arrange access to computer workstation with an Internet connection for students being assessed with Mini camera,

f) arrange accessibility to KTLN site for student being assessed through KTLN and staff/student/parent/ transportation and

g) arrange for videotaping of each on-line AT assessment.

To implement this project, an action plan was developed from the Management plan. This plan is used as a guide in the monthly Project STATUS meetings. See Appendix XX. The action plan is a dynamic document that allows for revision as the project was being implemented. An additional student specific matrix was developed to indicate benchmarks for the completion of the Project STATUS activities as they related to each student – See Appendix XX.

Several initial barriers became apparent during the implementation of creating the rural system. These barriers included 1) Local district did not always have the technological capacity to conduct AT assessment, 2) Local district teams were not always aware of their responsibilities in conducting AT assessments, 3) AT assessment final reports were not always distributed to members of local district team, and 4) STATUS AT assessments were some times not addressed in IEP after AT assessment.

In efforts to eliminate the identified barriers, the project was explained to potential staff in rural settings by both the school districts Director of Special Education and by the AT Center team during preplanning and rehearsal phases. However, some of these barriers were not eliminated. Although there were opportunities for local district teams to understand this project,

through various evaluations, it was found that not all local district team members understood all the phases of the project – from referral, assessment, training and follow-up.

As part of the rural system, technical assistance was provided for implementation through the following steps;

1) Upon local receipt of AT report, review report with related staff and determine need for clarifications from Project STATUS AT specialist(s)
2) Based upon report recommendations, schedule IEP/ARC meeting if needed to review report findings and incorporate into IEP as appropriate
3) Based on IEP/ARC decision, make arrangements to obtain appropriate AT (i.e., loan or purchase)
4) Arrange for staff participation in additional AT technical assistance regarding equipment, operation and student usage, as needed

The final component of the rural access system was to provide professional development to local school team members on the use of AT that was recommended for the student, or the AT training identified as a need by the local school team. An action plan was developed for implementing training. As part of the process, at the end of each assessment, a discussion of potential professional development training topics were addressed. After, the assessment, the Project's professional development coordinator, further developed training based upon the local district team, arranged for training, and assisted in the implementation of training.

Training was threaded throughout the project and developed as a result of the completion of each AT assessment. Training sites included KTLN studios and local school district classrooms using videophones. Participants from local teams and some parents have attended

the training. Appendix XX provides a list of the professional development topic by school district.

Sixteen potential staff were available for training. These trainers were members of the AT Regional Centers and members from Eastern Kentucky University's Occupational Therapy program and University of Louisville's AT program. Trainers listed by agency included: Western Kentucky Assistive Technology Center – three trainers, enTECH – seven trainers, Bluegrass Technology Center, four trainers, Eastern Kentucky University, two trainers,University of Louisville – one trainer.

Evaluations from professional development events were conducted. Forty participants completed an evaluation form consisting of 15 questions. Participants were asked to respond to questions on a 5 point likert scale. Key evaluation areas and their respective averaged score are as follows: Knowledge of Topic Prior to Training -2.7, Relevance of Content to Needs- 4.0, Presenter was Knowledgable- 4.7, Knowledge of Topic After Training- 3.7 and Training Met Intended Goals -4.1.

Additionally, the project gathered data about the Technical Effectiveness of Training related to the quality of the training via distance technology. Participants comments ranged from difficult to make out (2), not a very clear picture (2), fair picture and sound (2), good (25), very effective/good (9). Participants overall felt that the use of distance technology was appropriate. The following comment is an example of participants reaction to the training via distance – "The training was effective in ways that technology could be utilized in my classroom. Clear picture and clear sound."

Objective 2. Adapt videoconference and/or Internet technologies to perform distance-based assistive technology assessment and technical assistance for educational purposes

The assessment protocol was a basic framework in which activities were developed for each individual assessed. The completion of the distance – based assessment could not have been completed without this assessment protocol. See Appendix XX for an example of the protocol and an example of assessment activity sheet.

Local participants participated in video conference rehearsal of the assessment prior to each distance-based assessment. Also, an assessment kit tailored to each child's individual AT assessment needs was sent to each team leader at least one week prior to the assessment in order for the local team to familiarize themselves with the equipment that was to be used during the assessment. Additionally, after each evaluation, the center-based team and the local team debriefed. Their discussion reviewed the assessment and the observations that all personnel identified during the process. This information was used to provide critical issues and information for the assessment report.

All respondents indicated that the directions provided by the Project STATUS AT team were adequate for the local education agency (LEA) team to complete the task of implementing and/or securing the AT devices. Some concerns were expressed about the viability of the process, however satisfaction was expressed by all of LEA participant team members. Eighty percent of the respondents from the LEA team members indicated intent to follow through with the assessment.

The evaluation teams were generally satisfied with the process of distance based assessment. Through careful analysis of the follow-up questionnaires, the multidisciplinary

teams using this medium indicated a satisfaction of 2.9 on a 5-point scale. However, the videophone medium was clearly the preferred method given that the teams rated this method with an average score of 3.1 on the appropriateness of the videophone medium. Further, the local multidisciplinary team evaluated the clarity and view to be an average of 3.2 as compared to 1.8 for the other methods (KTLN and Internet).

Objective 3. Development of instructional methods for teaching local school personnel how to facilitate implementation of the assistive technology recommended through the distance based AT assessment.

The provision of professional development training was an outcome of each assessment. Once the AT needs of each child was determined , a distance based training was developed for each local school team. District personnel were involved in the selection and in the development of each training event. The majority of the professional development training was provided through Kentucky's KTLN network. KTLN is a compressed videoconferencing network. However, there were several professional development trainings conducted via the videophone.

At the end of each training, school personnel were asked to submit a training event evaluation form. Overall, training was rated very helpful to the implementation of the overall AT program. In addition, products and materials were developed to individualize the professional development training. For example, customized communication boards and Intellikeys overlays were developed for numerous students. These overlays were designed to be used with the student that received the distance based AT assessment.

The following is a list of professional development training events that have occurred through Project STATUS. Additionally, this list includes the type of distance-based training used

to conduct the training. Overall, twelve professional development trainings were conducted. Nine of the trainings were provided via distance based (2 videophone and 7 KTLN). It should be noted that the professional development coordinator was able to conduct multiple site trainings whenever possible, therefore more than one local team often participated in each training event.

Anderson County: (Pilot group)

None arranged: District declined a distance-based PD event due to various staffing issues. They did send some staff members to a Face-to-Face workshop as an alternative. Topic: IntelliTools Products, Tutorials & Strategies

Bell County

6/3/99&6/4/99 IntelliTools Products, Tutorials & Strategies

6/3/99 & 6/4/99 Face to Face due to District's identified needs & collaborative opportunity available

10/21/99 DynaVox: Programming Strategies for Identified Student(s), (VideoPhone)

Christian County:

09/07/00, IntelliTools: Overview & Strategies for Identified Student(s), (KTLN)

Grant County:

05/24/01 AT: Using Simple Technology to Promote Communication in the Classroom; AAC: Vocabulary Selection & Implementation Strategies for Identified Student(s) (KTLN)

Henry County:

Originally arranged via KTLN with Multi-District Sites; District withdrew twenty-four hours prior to event but did request videotape of event.

Harlan County:

04/06/01, IntelliTools: Overview & Strategies for Identified Student(s), (KTLN)

05/18/01, Technology to Assist Students with Learning Disabilities in Writing, (KTLN)

Marshall County:

09/28/01, IntelliTools: Overview & Strategies for Identified Student(s), (VideoPhones)

Morgan County:

05/18/01, Technology to Assist Students with Learning Disabilities in Writing, (KTLN)

Ohio County:

09/18/00, AAC: Designing Dynamic Displays for Classroom Use, (KTLN)

Pendleton County:

None arranged: No training needs identified by District

Pike County:

04/06/01, IntelliTools: Overview & Strategies for Identified Student(s) (KTLN)

All project staff met on a monthly basis. The core of project staff included the following people: Preston Lewis, Co-Project Director, Debra Bauder,Ed.D., Co-Project Director, Tom Simmons, Ph.D, Project Evaluator, Jean Isaacs, ATP, Project Technology Specialist, Debbie Sharon, Professional Development Coordinator, and Assistive Technology Expert Team members: Sandi Baker, Cheryl Zagray, SLP, Kristi Lindenmeier, SLP-CCC, Beth Blankenship, SLP-CCC, Melissa Miller,ATP, Pat Nelson, SLP-CCC, Kim Hall, OTR/L, Jean Kalscher, OTR/L, Bob Cunningham, OTR/L.

Most information was provided to schools and personnel via email. The Kentucky Department of Education server includes a global email system of all school personnel throughout the Commonwealth. Additionally, a listserv was established for ongoing communication for project staff.

Objective 4: Demonstrate how interactive distance-based assistive technology evaluation and technical assistance ultimately impacts student participation in statewide assessment and accountability and improvement in overall educational performance consistent with their IEP.

Project STATUS AT evaluations of students involved a great deal of components. The impact on students can be looked at quite literally as to what happened with the student and what was the student able to do that he or she was not able to do before this process. Other variables that should be looked at include whether the assessments were utilized in the development of an updated IEP and whether programs were developed that supported that IEP. Further, were there changes in the student's performance on other indicators such as test scores, standardized assessments, Kentucky's high-stakes assessment, improvement in portfolios and performance in everyday school activities such as homework, group participation, reading or writing activities.

All of these variables lead to a perceived understanding of the impact of Project STATUS assessment on the student recipient. At this point we are not able to respond to all of the above questions. Many will be answered in the final report for our Phase II component of our project. However, we are able to respond to some of these questions due to the summarization of certain aspects of our 3 to 6 Month and 6 to 9 Month Follow-up Questionnaires (See Appendix XX) and the analysis of several other interviews and on-going data collection strategies. The following is a preliminary summary that data.

Data analysis indicates that the Project STATUS assessment reports have been applied in most of the participating students classrooms. Reviewing the data, over 80% (22 of the 28) of the students have had the suggested services or products included or projected to be included in the student's IEP or daily activities. Of those students that have had an IEP Team meeting

(Admissions and Release Committee-ARC) and have had a discussion of the Project STATUS assessment report, one student's IEP did not include the recommendation from the Project STATUS assessment. This was due to the fact that there was another more recent AT assessment and the ARC chose to follow the suggestions of the more recent assessment. Eight of the Project STATUS assessments only had partial acceptance of the recommendations. The partial acceptances of recommendations were caused by various reasons ranging from complete disagreement with certain aspects of the recommendations to not having taken the time to review the recommendations.

Some of the Admissions and Release Committees (ARC) have not been convened to review ten of the Project STATUS assessments. In some cases, the ARC have not convened to re-evaluate the student's needs, in other cases the ARCs were convened but did not review the STATUS recommendations for a variety of reasons. Follow-up interviews have been implemented and approximately five of those ARCs are projected to accept and implement those STATUS recommendations.

Staffing issues have also had an impact on the implementation of Project STATUS recommendations. In 10 of the individual student situations within the 3 to 6 Month Follow-up Questionnaire period, some members of the original local school team did not provide services in the respective schools. Additionally, four of the Project STATUS AT assessments were either lost or not transmitted to the LEA/ARC team members due to communication errors in the LEAs administration. In total, 15 of the students have not received or have just recently been provided the Project STATUS recommended services/products. Of these students no real impact can be determined as of yet.

Of the students that have received some aspect of their recommended AT services/products, the LEA reports that eight of the students feel comfortable working with the recommended item. Additionally, the LEA representative indicated that all of the students who have received the STATUS recommended devices/services are integrating the AT into the classroom. The LEA representative reported that the majority (seven) of the students have integrated the AT across curriculum; three integrated the AT across the home, school and community, and three across various staff. When looking at the 10 students that have benefited from having the recommended Project STATUS services/devices, the LEA representative reports that five of the students have had average or above average benefits with one experiencing no benefits and four not knowing whether there were any benefits.

In total the benefits of the Project STATUS assessments have been mixed. It appears that long-term follow-up is needed. Much of the benefits of AT for a student can only be measured over a period of time that covers several years. Test results on high-stakes assessments and other variable cannot be attributed because the test has not yet been taken; when the test has been taken, the services or devices have not been either acquired or the not used enough to have an impact. Further, complicating factors such as frequent changes of important LEA professionals dilutes the impact of any given intervention.